



## About the Importance of Experiments and Practical training that are Conscious of the Five Senses and Practical Examples

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### **Abstract**

*In France, the taste education devised and implemented by Jacques Puisais has spread throughout the country, and the educational program is drawing attention in Japan as well. Always conscious of the five senses, valuing what I felt, and sharing what I felt through expressions such as language with others. It is expected that this will foster a sense of self-usefulness, understanding of others, and sociality, and it is considered that practicing this theory in the field of education is extremely effective in the development of rich humanity. It is possible to incorporate it in any subject, but in particular, in the practical lessons, it is easy to compose content that is conscious of the five senses, and it can be expected to raise interest and understanding. As a result, it was seen that they described what they felt using their senses of sight, smell, and touch without giving instructions, and they seemed to make evaluation and verbalization using the five senses a habit. In addition, some people wrote more vocabulary as the number of times increased, suggesting the effect of repeated activities. From the above, it became clear that in practical lessons, not only observing, but also intentionally making each of the five senses and emphasizing and verbalizing what one feels will deepen one's understanding of the subject being evaluated. At the same time, it was suggested that repeating this educational practice would contribute to the improvement of vocabulary and expression.*

**Keywords:** *Experiments and Practical training, Taste Education, Five Senses*

### **1. Introduction**

In France, the taste education devised and implemented by wine brewing scholar Jacques Puisais in the 1970s has spread throughout the country, and the educational program is drawing attention in Japan as well [1]. Always conscious of the five senses, valuing what I felt, and sharing what I felt through expressions such as language with others. It is expected that this will foster a sense of self-usefulness, understanding of others, and sociality, and it is considered that practicing this theory in the field of education is extremely effective in the development of children. It is possible to incorporate it in any subject, but especially in the experiments and practical training, it is easy to assemble the contents that are conscious of the five senses, and it can be expected to raise the degree of interest and understanding. In this paper, I will touch on the idea of taste education advocated by Mr. Puise and the necessity of development, and report on examples of practice in Japan.

### **2. Philosophy of taste education**

The taste education practiced by Mr. Puise is "education to learn to taste using the five senses", not "education to teach taste". Also, "I can only express what I tasted, what I felt, and I can't express it. Therefore, I can freely express what I tasted and felt." It is listed in the philosophy [2]. It is thought that the development of vocabulary is promoted by facing the food with independence, listening to the story from the food using the five senses, and expressing the feeling in words. At this time, the child asks his or her memory and derives words from the accumulation. Furthermore, by using the five senses to face food, one can awaken one's senses and reconsider oneself, increasing self-awareness, which is thought to contribute to the formation of self-confidence. In addition, by sharing what you feel with others, you will know that you and others feel differently, develop communication skills, and lead to understanding of others who recognize each other. By using the five senses to face food in this way, children are highly interested in what they are eating, and in addition to the ability to independently taste food, the background of food You will be interested in what kind of situation there is, and you will acquire the ability to choose food. Furthermore, through activities to verbalize and express what you feel, it also affects human formation such as self-awareness, understanding of others, and improvement of vocabulary and expression. In order to realize this taste education, it is necessary for the child to have enough time to face and feel the food and to express it. And it is important to give time to share what you feel so that the children can get to know each other better. At this time, the adult should accept all the children's remarks and never impose an answer. It is said that branding and dominant actions are not required for taste education, and it is also necessary to convey to children that each person is different as a message.



### 3. Practical examples in Japan

#### 3.1 Purpose and Method

The author thought that incorporating this philosophy into university classes could contribute to improving the educational effect, and decided to incorporate it into the classes he was in charge of. The target is a "cooking science training" class for second-year students of the Faculty of Food and Environmental Sciences, Toyo University. In 2021, 77 people attended. Approximately 7 hours of practical lessons, including breaks, were held 6 times each time. Each time, the theme ingredients are set, and the cookability of the ingredients is learned through practical training and experiments. The theme of each session is shown in Table 1.

Table 1. The theme of each session

Times	Theme	Related matters
1	Dairy products	sensory evaluation of milk, yogurt, butter, string cheese
2	flour	gluten formation, udon and chinese noodles, white sauce and brown sauce
3	egg	emulsifying, foaming, heat coagulation
4	beans	water absorption, tofu, soybean flour, red bean paste
5	meat	softening, vacuum cooking, minced meat cooking
6	fish	Surimi, denbu, vinegar-tightened, artificial salmon roe

This practice focuses on the effect of the introduction of the theory of taste education in practical lessons on the educational effect, not the lessons in which taste education itself is conducted. For that reason, I was particularly conscious of observing and tasting the foods and cooked foods to be tested, and focusing on expressing them in words. At the first time, I fully informed the students that they do not have to worry about the difference in how they feel from others, and that they try to express themselves with respect for their own feelings.

#### 3.2 Results and discussion

As an activity during the first class, we started by conducting an activity to taste three kinds of milk and making an evaluation. At that time, in order to clarify the viewpoint of evaluation, worksheets for describing "appearance," "fragrance," "texture," and "taste" were distributed and recorded. Table 2 shows an example of a student's description.

Table 2. example of a student's description about three Milk.

	Milk A	Milk B	Milk C
appearance	White closest to gray. The white density is high.	White that is close to cream. It is more transparent than A.	Pure white compared to A and B.
aroma	The smell is the strongest. It smells like soybeans.	The smell is lighter than A. Like A, it smells like soybeans.	It doesn't smell in particular.
texture	It feels more sloppy than others.	It is smoother than A.	Like B, it's smooth.
taste	strong. Mellow and creamy.	The lightest taste. No aftertaste.	It has a stronger soybean-like taste than A and B.

After this activity, as a result of working on various experiments, at the same time as learning the analysis method and acquiring objective data by measurement using the specified equipment every hour, even if we do not give instructions, we can visually and visually. It was seen that the senses of smell and touch were used to describe what was felt, and it seemed that evaluation and verbalization using the five senses became a habit.

Table 3. example of a student's discription about tuna.

	A	B	C	D
State of the surface	The whole was red and glossy.	It turned white. The red part	It was whiter than B, and the red part	There was a brown fluffy thing around.



		inside was visible through.	inside was almost not transparent. Red parts were seen in some places.	Because it is translucent, the red part inside was clearly visible.
State of cross section	It was as red as the surface.	Only the surroundings were white, and the central part was the same red as A. There was a clear difference in color between the surroundings and the center.	Compared to B, the color depth of the surrounding white part was different, but the area of the white part was the same as B. Similar to B, there was a clear difference in color between the surroundings and the center.	Compared to B and C, the part where the surrounding color changed was fluffy like a gel and turned brown. The color of the center was the same red as A.
hardness	It was the softest.	The part where the color changed became hard probably because the outside was heated. I felt that the red part in the center was also a little harder.	I felt tighter than B and became harder. The surrounding white part is also harder than B.	The brown part around it became harder than B and C.

Table 3 records the state of tuna fish meat performed by the students shown in Table 2 in the 6th fish vinegar tightening experiment. Although the viewpoint to be observed is not specified, it can be seen that the viewpoint of evaluation is set in detail, such as the state of the surface, the state of the cross section, and the hardness. In addition, the amount of each description tended to increase compared to the first time. Using one's five senses to sense various information such as the characteristics of the subject and the state of change, placing emphasis on the activity of expressing, and repeatedly practicing it is the "observation" necessary for experiments and practical training. It is thought that it can be closer and deeper to the essence. In the case of simply "observing", sometimes it is possible to be biased only to the information obtained from the visual sense, but as a result of always being aware of using the five senses, it is possible to learn to use the sense of smell and touch, and to observe naturally. This leads to the acquisition of more information that can be used as a basis for considering the results because more information can be obtained from the subject, and contributes to creating a good cycle of deepening learning. In addition, since the content of the description of what was felt by the five senses was not given a superiority or inferiority in the evaluation, it was seen that the students described it with a sense of security as a place where they could freely express what they felt. It is thought that it also contributed to the increase in quantity.

#### 4. conclusion

In experiments and practical training, activities that emphasize the use of individual senses are first introduced, and after making them aware of what it is like to evaluate using the five senses, they face the subject and themselves from the perspective of evaluation. It was suggested that the ability to find in was improved, and that repeating activities to put what was felt into words would contribute to the improvement of expressiveness. This is expected to be useful as an approach that creates a good cycle in learning by deepening the knowledge and understanding of the object.

#### References

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